

CLAIMS

We Claim:

1. A grain bin monitoring system, comprising:
a main station;
a transmitter unit in communication with said main station;
at least one sensor positionable within a grain bin for determining condition data with respect to a grain bin, wherein said sensor is in communication with said transmitter unit for providing said condition data to said transmitter unit, wherein said transmitter unit automatically forwards said condition data to said main station.

2. The grain bin monitoring system of Claim 1, wherein said main station provides said condition data to a computer via a global computer network.

3. The grain bin monitoring system of Claim 1, wherein said sensor is comprised of an interior temperature sensor that measures the interior temperature of a grain bin.

4. The grain bin monitoring system of Claim 3, wherein said interior temperature sensor measures the temperature of grain at various levels.

5. The grain bin monitoring system of Claim 1, wherein said sensor is comprised of an exterior temperature sensor for measuring the temperature exterior of a grain bin.

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3 6. The grain bin monitoring system of Claim 1, wherein said sensor is
4 comprised of an exterior temperature sensor for measuring the temperature exterior of
5 a grain bin and an interior temperature sensor that measures the interior temperature of
6 a grain bin.

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9 7. The grain bin monitoring system of Claim 1, wherein said sensor is
10 comprised of a level sensor positionable within a grain bin for measuring a grain level
11 within a grain bin.

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14 8. The grain bin monitoring system of Claim 1, wherein said sensor is
15 comprised of a humidity sensor for measuring the humidity level within a grain bin.

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18 9. The grain bin monitoring system of Claim 1, wherein said sensor is
19 comprised of:

20 an interior temperature sensor that measures the interior temperature of a grain
21 bin;

22 exterior temperature sensor for measuring the temperature exterior of a grain
23 bin;

24 a level sensor positionable within a grain bin for measuring a grain level within a grain
25 bin; and

26 a humidity sensor for measuring the humidity level within a grain bin.

1 10. The grain bin monitoring system of Claim 1, wherein said transmitter unit
2 is capable of communicating with an aerator unit for controlling an aerator unit based
3 upon said condition data.

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6 11. A grain bin monitoring system, comprising:
7 a main station;
8 a central unit in communication with said main station;
9 a plurality of transmitter units in communication with said central unit;
10 at least one sensor positionable within a grain bin for determining condition
11 data with respect to a grain bin, wherein said sensor is in communication with one of
12 said transmitter units for providing said condition data to said transmitter unit, wherein
13 said transmitter unit automatically forwards said condition data to a central unit which
14 automatically forwards said condition data to said main station.

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17 12. The grain bin monitoring system of Claim 11, wherein said main station
18 provides said condition data to a computer via a global computer network.

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21 13. The grain bin monitoring system of Claim 11, wherein said sensor is
22 comprised of an interior temperature sensor that measures the interior temperature of a
23 grain bin.

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26 14. The grain bin monitoring system of Claim 13, wherein said main station
27 notifies an individual in the event of an alarm condition.

1 15. The grain bin monitoring system of Claim 11, wherein said transmitter unit
2 is capable of communicating with an aerator unit for controlling an aerator unit based
3 upon said condition data.
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6 16. The grain bin monitoring system of Claim 11, wherein said sensor is
7 comprised of an exterior temperature sensor for measuring the temperature exterior of
8 a grain bin and an interior temperature sensor that measures the interior temperature of
9 a grain bin.
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12 17. The grain bin monitoring system of Claim 11, wherein said sensor is
13 comprised of a level sensor positionable within a grain bin for measuring a grain level
14 within a grain bin.
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17 18. The grain bin monitoring system of Claim 11, wherein said sensor is
18 comprised of a humidity sensor for measuring the humidity level within a grain bin.
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21 19. The grain bin monitoring system of Claim 11, wherein said sensor is
22 comprised of:

23 an interior temperature sensor that measures the interior temperature of a grain
24 bin;

25 exterior temperature sensor for measuring the temperature exterior of a grain
26 bin;

27 a level sensor positionable within a grain bin for measuring a grain level within a grain
28 bin; and

29 a humidity sensor for measuring the humidity level within a grain bin.

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- 3 20. A grain bin monitoring method, said method comprising the steps of:
- 4 (a) determining an interior temperature within a grain bin;
- 5 (b) determining a grain level within said grain bin;
- 6 (c) determining a humidity level within said grain bin;
- 7 (d) accumulating said interior temperature, said grain level and said humidity
- 8 level into a condition data;
- 9 (e) transmitting said condition data to a central unit;
- 10 (f) repeating steps (a) through (e) for any remaining grain bins;
- 11 (g) transmitting said condition data to a main station; and
- 12 (h) accessing said condition data via a computer.